



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Evonik Degussa Corporation Tippecanoe Laboratories, Lafayette, IN

FROM: Valeria Apolinario, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Supervisor
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Evonik Degussa Corporation Tippecanoe Laboratories

Facility Location: 1650 Lilly Road, Lafayette, IN 47909

Date of Inspection: December 1, 2022

EPA Inspector(s):

1. Valeria Apolinario, Environmental Engineer
2. Alexandra Letuchy, Environmental Engineer
3. Meaghan Pashen, Environmental Engineer

Other Attendees:

1. Kurt Graham, IDEM, Environmental Engineer
2. Martin S. Cotterman, Director, ESH & Security
3. Timothy Hahn, ESH Manager
4. Kelly Kluge, Manager, Environmental Operations
5. Nathan Gray, Director of Site Services
6. Dillon Dishon, ESH Associate, Air, attended over phone
7. Glynis Boone, ESH Manager, attended closing conference over phone

Contact Email Address: glynis.m.boone@evonik.com

Purpose of Inspection: to determine compliance with the facility's Title V Permit and the National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (NESHAP Subpart FFFF), NESHAP from Pharmaceuticals Production, (Subpart

GGG), NESHAP from Hazardous Waste Combustors (Subpart EEE), and NESHAP for Off-Site Waste and Recovery Operations (Subpart DD).

Facility Type: Pharmaceutical Preparation Manufacturing

Regulations Central to Inspection: Evonik Degussa Corporation Tippecanoe Laboratories' ("Evonik" or "facility") Title V permit states that its bulk chemical manufacturing process can be operated in compliance with NESHAP Subpart FFFF or GGG, with the process generally operated in accordance with NESHAP Subpart GGG. Evonik has chosen an alternative standard under the standards for process vents under Subpart GGG and must comply by routing process vents to a closed incinerator to achieve an outlet total organic carbon ("TOC") concentration of 20 ppmv or less and outlet concentration of hydrogen halides and halogens of 20 ppmv or less. Evonik is also required to follow the standards for equipment leaks, which includes the implementation of a leak detection and repair ("LDAR") program, when equipment is operating in compliance with NESHAP Subpart FFFF, GGG, or DD. Evonik's Title V permit states that a Regenerative Thermal Oxidizer ("RTO") system and fume incineration system is to control emissions from bulk chemical manufacturing and support operations at the facility. The RTOs are to be equipped with continuous emission monitoring systems (CEMS) and must meet a 24-hour rolling average limit for CO, NO_x, and SO₂ concentrations. The RTOs may also be equipped with TOC and HCl continuous emission monitoring system. The fume incineration systems also have operating parameter limits listed in the Title V permit.

NESHAP Subpart EEE obligates the facility to establish and comply with operating parameter limits (OPLs) for its hazardous waste incinerators. NESHAP Subpart EEE also requires the facility to comply with a CO emission limit of 100 ppmv based on an hourly average. OPLs and emission limits are to be interlocked with an Automatic Feed Cutoff ("AWFCO") system to shut off the waste feed if the limits are exceeded.

Arrival Time: 1:15 PM

Departure Time: 5:00 PM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Small Business Resource Information Sheet not provided. Reason: – Not a small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from facility personnel unless otherwise noted.

Process Description:

Evonik is a contract manufacturer of bulk pharmaceuticals. Batch campaigns typically last two weeks to six months. Permitted equipment is configured in different arrangements for each campaign. Bulk chemical manufacturing processes at the facility include small chemical manufacturing operations, large molecule manufacturing, and solvent recovery. The facility also operates storage vessels associated with these processes which contain raw and intermediate materials, waste materials, and final products.

Evonik operates an RTO system, consisting of two RTOs, that controls TOC and hydrogen halide emissions from its small chemical manufacturing operations and storage vessels. Evonik operates a fume incinerator system, known as the T79-309 and T79-310 incinerators, to also control TOC and hydrogen halide emissions from the facility's solvent recovery operations and from storage vessels. Both the RTOs and fume incinerator systems are equipped with caustic scrubbing systems to control for halogen emissions as well. Emissions from the large molecule manufacturing are uncontrolled.

Evonik operates two incinerators, one dedicated to burning liquid hazardous waste, T49, and another to burning solid hazardous and nonhazardous waste, T149. T49 treats primary and secondary liquid waste. Primary waste is organic-based and secondary waste is aqueous-based. Approximately 85% of all liquid waste and 25% of solid waste burned is from on-site operations. Evonik analyzes off-site waste before unloading and accepting the waste. When burn tanks are filled, Evonik samples the wastes to ensure that metal, chloride, mercury, and other feed streams will be within the operating parameter limits for the incinerators. Burn tanks are typically burned all the way down. There are approximately five primary waste burn tanks and three secondary waste burn tanks on-site. These tanks are fixed roof and equipped with a closed vent system.

Evonik feeds solid waste into T149 in 55-gallon fiber drums. Solid waste is burned through an isolation chamber. One side opens to be fed the drum, closes, and then the other side opens to expose the waste to the incinerator. Evonik's Title V permit indicates that flue gases from the incinerators flow to an air pollution control system consisting of a quench, condenser/absorber, and hydrosonic scrubber before exiting out the stack. The solid waste incinerator also operates a selective non-catalytic reduction system to control for NO_x emissions.

Staff Interview:

Evonik is subject to various NESHAPs, as summarized in the regulations central to the inspection section, that may apply at various times, depending on the type of product the facility is manufacturing. In order to aid with compliance, personnel stated that the facility complies with the most stringent requirement that could apply at the emission units/control, regardless of what product the facility is producing. The facility maintains an internal compliance applicability spreadsheet to aid in determining its requirements under each regulation.

The facility conducts LDAR on all equipment that requires monitoring. Evonik uses guideware software to manage equipment and track which regulations apply to each piece of equipment. The average leak rate is below 1% and the connector leak rate is less than 0.5%. Tanks are

included in the LDAR program, with some pressure tested annually for LDAR, instead of monitored using EPA Method 21. Some tanks are subject to RCRA BB and CC but are considered *deminimus* for Title V permit purposes.

Evonik only operates one RTO at a time. If the operating RTO goes down, the emissions will bypass the RTO and exhaust to the atmosphere. Facility personnel stated that bypass events are short, and only last several minutes. The facility does not operate its fume incinerator system continuously. A performance test for the T79-309 fume incinerator was completed recently and the T79-310 incinerator will be tested in 2023.

Evonik does not operate its incinerators continuously, but rather in batches. When asked how often AWFCO events are triggered, Evonik staff stated that there are spikes in CO emissions that cause AWFCOs approximately once a year at T149. When the CO emission limit is triggered, the waste feed is shut off. Staff stated that they record the waste associated with these spikes and reject the waste from that point forwards.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

U.S. EPA visited the control room for the T49 incinerator and recorded the following operating parameters:

Operating Parameter	Limit	Inspection Value	AVG period
Min. Atomizing Air Media Pressure	60 psig	87.3 psig	1 HRA
Max Primary Waste Feedrate	7,117 lb/hr,	2017 lbs/hr	1 HRA
Max Secondary Waste Feedrate	18,326 lb/hr	11197 lbs/hr	1 HRA
Min. Combustion Temperature	1,850 °F	2000 °F	1 HRA
Max. Combustion Air Flow Rate	14,899 scfm	13, 628 scfm	1 HRA
Max Mercury Feed Rate	0124 lb/hr	0.0018 lbs/hr	12 HRA
Max SVM Feed Rate	.68 lb/hr	0.11 lbs/hr	12 HRA
Max LVM FR	1.85 lbs/hr	0.14 lbs/hr	12 HRA
Max Ash FR	1,999 lb/hr	231.2 lbs/hr	12 HRA
Max CI FR	3,475 lb/hr	126.8 lbs/hr	12 HRA
Min Condenser/ Absorber FIR	600 gpm	1000 gpm	1 HRA
Min Dp across C/A	0.5 in w.c.	2.00 in w.c.	1 HRA
Min, Hydrosonic FIR	288 gpm	310 gpm	1 HRA
Min HS dp	75 in wc	78.1 in w.c.	1 HRA
Min C/A pH	4.7	7.6	1 HRA
Max C/A %TDS	3.5%,	0.12%	12 HRA

U.S. EPA recorded a CO concentration of 5.2 ppmv 1-hour average value at the time of the inspection. U.S. EPA also observed that there were alarm limits associated with each operating parameter; if operating parameters were to exceed these limits, an alarm would indicate to the kiln operator that an AWFCO may occur, giving time for the operator to modify system

operations. While T149 was not operating at the time of inspection, U.S. EPA noted that one AWFCO had occurred in the past 60 days.

U.S. EPA also visited the RTO control room. Staff stated that only RTO1 was operating at the time of the inspection. U.S. EPA recorded the following CEMS information:

Pollutant- RTO1	Limit	Inspection Value	AVG period
CO	73 ppmv	5.44 ppmv	24 HRA
NOx	91 ppmv	13.99 ppmv	24 HRA
SO2	100 ppmv	0.01 ppmv	24 HRA
TOC	20 ppmv	3.89 ppmv	24 HRA
HCl	20 ppmv	0.34 ppmv	24 HRA

Afterwards, U.S. EPA observed that one of the RTOs was operating. Staff stated that RTO2 was down to replace plugged packing.

Finally, U.S. EPA visited the control room for the fume incinerators, T79. Staff stated that T79-310 was down for maintenance. U.S. EPA recorded the following parameter information for T79-309.

T79-309 Parameters	Limit-T79-309	Inspection Value	AVG period
Minimum Combustion Temperature	1500 °F	1525 °F	24 HRA
Minimum Scrubber Effluent pH	4.5	6.9	24 HRA
Minimum Scrubber Liquid Flowrate	152 gpm	190.5 gpm	24 HRA
Minimum Liquid to Gas Ratio	12.6	14.63	24 HRA

Photos and/or Videos: were taken during the inspection.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested Documents

- U.S. EPA requested Evonik's internal compliance applicability spreadsheet on January 18, 2023.

DIGITAL SIGNATURES

Report Author: _____

Section Supervisor: _____

Facility Name: Evonik Degussa Corporation Tippecanoe Laboratories

Facility Location: 1650 Lilly Road, Lafayette, IN 47909

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APPENDICES AND ATTACHMENTS

I. Appendix A: Digital Image Log

Facility Name: Evonik Degussa Corporation Tippecanoe Laboratories

Facility Location: 1650 Lilly Road, Lafayette, IN 47909

Date of Inspection: December 1, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Valeria Apolinario	2. Archival Record Location: Region 5 Electronic Records Center
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Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	IMG_0308.JPG	2022:12:01 15:26:07	T49- Liquid Waste Incinerator PSD Display
2	IMG_0309.JPG	2022:12:01 15:31:15	T49-Liquid Waste Incinerator Rolling Averages
3	IMG_0310.JPG	2022:12:01 15:37:28	RTO CEMS